

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-58 are pending, with Claims 1-17, 26-27, 29, 30-39, 42, 47-53, and 58 amended by the present amendment.

In the Office Action, the Specification was objected to; Claim 55 was objected to under 37 C.F.R. §1.75(c); Claims 1, 14, 26, 48, 52, and 53 were objected to; and Claims 1-15, 16-20, 26-42, and 47-58 were rejected under 35 U.S.C. §102(e) as anticipated by Lovelace et al. (U.S. Patent No. 5,901,136; hereinafter Lovelace); Claims 21-25 and 43-46 were rejected under 35 U.S.C. § 103(a) as unpatentable over Lovelace; and Claim 16 was indicated as allowable.

Applicants acknowledge with appreciation the indication of allowable subject matter.

Applicants acknowledge with appreciation the personal interview between the Examiner and Applicants' representative on October 28, 2003. During the interview, specific citations to the terms "B blocking islands" and "concave resources" were identified in the specification^{1,2} and were contrasted with the teachings of Lovelace.

Regarding the objection to Claim 55, Applicants note that Claim 55 (as well as Claims 5-8, 10-14, 18-21, 23-25, 30-33, 35-39, 43-47, 50, and 54-57) was amended to remove all multiple dependencies in a preliminary amendment filed with the specification on May 25, 2000. A copy of the preliminary amendment of May 25, 2000, along with a date-stamped filing receipt, is attached hereto. Therefore, Applicants request the outstanding objection be withdrawn.

Claims 1, 2, 9, 11, 14, 26-27, 34, 36, 48- 50, 48, and 52-53 are amended to replace European spellings with American spellings, as requested in the Official Action. Claims 1-

¹ Specification, page 10, line 30 – page 11, line 9.

² Specification, page 24, lines 14-16.

17, 26-27, 29, 30-39, 42, 47-53, and 58 are also amended to more clearly describe and distinctly Claims Applicants' invention. No new matter is added.

Briefly recapitulating, Claim 1 is directed to a method of management in a circuit-switched communication network (1). The method is performed on, or with the aid of, at least one programmable device (10) connected to the network (1). The method comprises a step of computing (202) and storing (203) in an electronic memory (1018, 1020) a representation of the network based on B-blocking islands (N_i). Each B-blocking island consists of a maximal set of nodes (A-G) linked in a such a way that at least one route with at least an amount B of concave resources exists between any pair of nodes in the set at the time t. This method of grouping nodes simplifies and allows improved routing of demands, network pricing, network analyzing, and network management.³ Independent Claims 26, 48, and 52-58 are directed to alternative embodiments of Applicants' invention, each reciting a B-blocking island comprising a maximal set of nodes (A-G) linked in a such a way that at least one route with at least an amount B of concave resources exists between any pair of nodes in the set at the time t.

Lovelace teaches a system and method for interconnecting input and output ports of network interface islands.⁴ Network interface islands are defined by Lovelace to provide telecommunications network interface ports through which telecommunications data transmission channels may be established.⁵ The connections between network interface islands are formed through distributed service nodes within the network interface islands.⁶ The distributed service nodes are telecommunications switches having a number of input nodes and output nodes.⁷ However, Lovelace does not teach or suggest 'a circuit-switched network' as recited in Applicants' Claim 1. In Lovelace, there is no mention of circuit or

³ Specification, page 10, line 30 – page 11, line 9.

⁴ Lovelace, column 4, lines 18-22; column 5, lines 62-65; column 10, lines 54-57.

⁵ Lovelace, column 4, lines 3-6.

⁶ Lovelace, column 5, lines 46-48.

⁷ Lovelace, column 5, lines 10-13.

packet switching networks. For at least this reason, Applicants submit the inventions defined by Claim 1, and all claims depending therefrom, are neither anticipated nor rendered obvious by Lovelace.⁸

Also, contrary to the Official Action, Lovelace also does not teach or suggest ‘B-blocking islands’ as recited in Applicants’ Claim 1. As defined in Applicants’ specification, a B-blocking island is a grouping of subsets of nodes assigned to a distributed agent.⁹ In Lovelace, [t]he routing of telecommunications traffic is coordinated by administration subsystem 14. Thus, if telecommunications traffic must be routed from an input port of a first network interface island 11 to an output port of a second network interface island 15, routing signals received by administration subsystem 14 are first converted to control signals that may include switching commands. Next, these control signals are transmitted over control system communications media 22 from administration subsystem 14 to network interface islands 11 and 15 involved in the data transmission path, and to distributed services nodes 18.¹⁰ While Lovelace goes on to provide extensive teachings of synchronization and timing of resources,¹¹ nowhere in Lovelace is there any mention of grouping nodes into any manner let alone grouping nodes into Applicants’ claimed B-blocking islands. At least because the network interface islands of Lovelace are not grouped, the network interface islands are not equivalent to Applicants’ claimed blocking islands. Thus, for another reason, Applicants submit the inventions defined by Claim 1, and all claims depending therefrom, are neither anticipated nor rendered obvious by Lovelace.

Furthermore, Lovelace does not teach or suggest a ‘B-blocking island comprising a maximal set of nodes (A-G) linked in a such a way that *at least one route* with at least an

⁸ MPEP § 2142 “...the prior art reference (or references when combined) must teach or suggest **all** the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”

⁹ Specification, page 10, lines 20-30.

¹⁰ Lovelace, column 6, lines 11-21.

¹¹ Lovelace, Figures 6, 7, and 10.

amount B of *concave* resources exists between any pair of nodes in the set at the time t' as recited in Applicants' Claim 1. As disclosed in Applicants' specification,¹² a resource for a link is concave if, for any path over the link, the amount of available resources is equal to the smallest amount of resources available on a partial link. Lovelace teaches '[s]ynchronization subsystem 16 is a timing subsystem for coordinating components of distributed digital cross-connect system 10. Synchronization subsystem 16 may be associated with master network interface island 13, in a manner similar to administration subsystem 14. Alternately, synchronization subsystem 16 may be centrally located and couple directly to each subsystem and network interface island in distributed digital cross-connect system 10. Synchronization subsystem 16 is a master timing system that receives network reference timing signals from the network of data transmission media to which it is connected (not explicitly shown). These timing signals are transmitted to the distributed services nodes timing systems (not explicitly shown) associated with distributed services nodes 18. Timing signals are then transmitted to the timing systems of network interface islands 11, 12, 15, and 17 and master network interface island 13 via data and timing media 24.'¹³ However, Lovelace does not teach or suggest assigning or otherwise managing 'concave resources' of a B-blocking island. In fact, other than timing, Lovelace does not teach or suggest network island resource management of any type, let along managing concave resources. Thus, for another reason, Applicants submit the inventions defined by Claim 1, and all claims depending therefrom, are neither anticipated nor rendered obvious by Lovelace.

In addition, for at least the reason listed above, Applicants submit that the inventions recited in independent Claims 26, 48, and 52-58, and all claims depending therefrom, are also neither anticipated nor rendered obvious by Lovelace.

¹² Specification, page 24, lines 14-16.

¹³ Lovelace, column 4, line 60 – column 5, line 9; Figures 6, 7, and 10.

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Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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ATTACHMENT

Preliminary Amendment of May 25, 2000 and Official Action indicating U.S.P.T.O.
receipt thereof.